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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Amendment of the Commission's
Rules to Establish a New
Personal Communications
Service

Gen. Docket No. 90-314
ET Docket No. 92-100

RM-7140 et al.

To: The Commission

REPLY COMMENTS OF
THE AMERICAN PUBLIC POWER ASSOCIATION

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Director of Government Relations

January 8, 1993

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and clearing fault conditions on high-power transmission lines within milliseconds, thereby preventing blackouts and loss of lives and property; (2) bringing nuclear, thermal, and hydroelectric generation stations on- and off-line to instantaneously match system capacity with demand; (3) forwarding critical telemetry data between and among a utility's substations, operations control centers, generation stations, and other utilities; and (4) controlling mobile radio base stations and other radio systems used for load control, environmental monitoring, and nuclear plant operations.

APPA supports the Comments filed in this proceeding by the City Utilities of Springfield ("City Utilities"), including its recommendation that 10 MHz of spectrum be set aside by the Commission for utility Personal Communications Service (PCS) use.¹ APPA concurs with City Utilities' conclusions that PCS technology could play an important role in extending electric utility load management the "last mile" into residences, businesses, and industries;² that PCS is a valuable and useful technology application for many other electric utility communications functions;³ that leasing common carrier PCS

¹/ Although APPA voiced several concerns about the Commission's NPRM in ET Docket No. 92-9 to establish the 2 GHz band as a spectrum reserve for emerging technologies (see Comments of the American Public Power Association, filed June 5, 1992, in said proceeding), most of the Association's objections were addressed in the Commission's First Report and Order and Third Notice of Proposed Rule Making in ET Docket No. 92-9, released October 16, 1992. APPA has, however, filed a Petition for Clarification of the First Report and Order, and plans to file Comments in the Third Notice of Proposed Rule Making.

²/ See Comments of City Utilities of Springfield, Gen. Docket No. 90-314 and ET Docket No. 92-100, Federal Communications Commission, filed November 9, 1992, pp. 5-6.

circuits is not an acceptable alternative for most electric utilities;⁴ and that a frequency set-aside is necessary to afford utilities a reasonable opportunity to acquire PCS licenses.⁵

II. Potential Energy Efficiencies Achievable By Linking PCS To Utility Demand Side Management Programs Are Significant

As indicated in our introductory comments, APPA's members utilize their communications systems for a number of functions that are critical in terms of safe and efficient operations of their electric utility systems. PCS technology can be integrated with most, if not all, of these functions, depending on the given circumstances. And utilization of this new technology can greatly enhance the overall efficiency of producing and delivering electric energy to the ultimate consumers. With publicly owned electric systems, all of these benefits flow back to the consumers.

APPA is particularly excited about the opportunities for shaving peak electricity demand and energy savings that can be achieved by utilizing PCS as the critical "last mile" link between the consumer and the utility's load control system.

³/ Id., pp. 6 - 8.

⁴/ Id., pp. 8 - 9.

⁵/ Id., pp. 9 - 11.

A 1991 APPA survey of publicly owned electric utilities showed that 48 percent of the responding utilities operated demand side management programs. Almost half of those utilities operating DSM programs utilize load management programs.⁶ These load management programs typically involve direct control of customer appliances such as water heaters, air conditioning compressors, and swimming pool pumps. As electricity usage approaches the peak demand of the system, the utility utilizes a command-and-control system to turn off or cycle these appliances. The reduction in electricity demand enables the utility to avoid or delay building additional "peaking" generation capacity or purchasing additional peaking power from other systems. Thus, consumers enjoy "double" savings -- short-term savings achieved when their appliances are cycled, and long-term savings from reduced capital construction expenditures by their electric utility.

The energy savings achieved by such load management techniques are significant. According to APPA's DSM survey, its member utilities cut peak demand by 3.9 percent through load management.⁷ These savings are expected to grow substantially through this decade. According to the Department of Energy, potential demand reductions at all U.S. electric utilities achieved through DSM programs are expected to increase from 24,400 megawatts (MW) in 1990 to 55,800 MW in 2000. During the same period, energy savings achieved through electric utility DSM programs

⁶/ Demand-Side Management in Public Power: The Quiet Revolution, American Public Power Association (Washington, DC: APPA), January 1992; pp. 10, 18-19.

⁷/ Id., p. 1.

are expected to grow from 17,100 gigawatt-hours (GWh) to 78,500 GWh. Even these huge energy savings are believed to be significantly underestimated by Eric Hurst of DOE's Oak Ridge National Laboratory.⁸

As impressive as these energy savings are, they could be even greater if load management utilization could be increased. Utilizing PCS to link residences with a utility's existing communications system would reduce the utility's cost of reaching the residences, thus making additional load management programs cost-effective.

PCS can be used in other energy efficiency programs, such as implementing time-of-day electric rates. A time-of-day rate schedule is a load-leveling program that works by offering lower electric rates during periods of low demand. Time-of-day rates have not achieved significant market penetration, primarily because the program requires two-way communication between the customer and the utility so the customer can determine the particular electric rate in effect at any given moment. To date, this two-way communication has been achieved primarily by broadband communication systems utilizing either fiber optic cable, coaxial cable, or a combination of both. PCS, however, has the potential to provide much cheaper two-way communications between the customer and the utility, thus encouraging implementation of this load leveling technique.

III. PCS Has Many Other Electric Utility Applications

⁸/ Electric Utility DSM Programs: 1990 Data and Forecasts to 2000, Eric Hurst, Oak Ridge National Laboratory (Oak Ridge, TN: U.S. Department of Energy), June 1992; p. 17.

In addition to DSM, PCS has many other potential applications for electric utilities. For example, meter reading is a major expense for electric utilities. On average, APPA's member utilities employ one meter reader for every 3,920 customers.⁹ According to APPA members, it costs utilities between 50 cents and \$1 each time a meter is read. Technology exists for automatic, remote meter reading. However, high costs have precluded widespread adoption of this technology. Again, a major element of this cost is the expense of establishing a two-way communications link between the utility and the residence. PCS has the potential to reduce these costs to a level that will make automatic remote meter-reading cost-effective, thus increasing utility efficiency. Again, these efficiencies translate into savings for utility customers.

Other potential electric utility uses of PCS include mobile communications, monitoring of critical equipment and functions, and data telemetry. No doubt many other applications exist; since PCS is an emerging technology, it is impossible to foresee all potential uses and efficiencies that are achievable.

IV. Use of Common Carrier PCS Services Is Not a Practical Alternative

APPA concurs with City Utilities that use of PCS services provided by a common carrier is not practical alternative. Communications systems used by electric utilities for monitoring and control of

⁹/ Selected Financial and Operating Ratios of Public Power Systems, 1990, American Public Power Association (Washington, DC: APPA), April 1992, p. 74.

critical functions and equipment must maintain reliability of 99.9999 percent. Utilizing PCS services offered by common carriers would necessitate relying on leased circuits that cannot meet this rigid reliability standard.

In addition to the reasons cited by City Utilities, the Institute of Electrical and Electronics Engineers set forth the following problems associated with leasing circuits from common carriers for communications services critical to electric utility operations:

- o Creates a problem of divided responsibility in establishing and maintaining satisfactory system operation...Too often, the lack of adequate discussion between lessor and lessee results in undue finger-pointing in lieu of resolving the problem.
- o Response time to begin correction of a communications channel malfunction can be unduly long, and the electric power utility has no direct means to improve the situation.
- o Depending upon the circuit length and its routing, division of responsibility can exist within the lessor's organization, particularly if some portion of the circuit should fall within a different telephone company.
- o Initially quoted leased circuit rates generally are increased with passing years, so that communications costs are uncontrollable.

- o As an electric utility commits itself to increasing the numbers of leased circuits, it thereby postpones its own equivalent communication system construction.¹⁰

For a more complete discussion of the impracticalities of relying on communications systems that are not owned and operated by the electric utility, see the Comments of the American Public Power Association, pp. 3-5, and Comments of the Utilities Telecommunications Council, pp. 31-36, both filed June 5, 1992, in the FCC's ET Docket No. 92-9.

V. Conclusion

PCS, when integrated into electric utility functions, has the potential for tremendous savings in both energy and costs. These savings would have tremendous impact on both national energy consumption and electric rates. The beneficiaries would be the American public.

But none of these savings and benefits can be achieved unless electric utilities can practically integrate PCS into their operations. For that to occur, the Commission must temporarily reserve a portion of

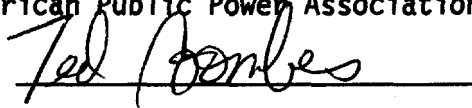
¹⁰/ Fundamentals of Supervisory Systems, Institute of Electrical and Electronics Engineers, Inc. (New York: IEEE), 1991, p. 49.

the PCS spectrum for utility licensees. APPA concurs with City Utilities' recommendation that at least 10 MHz be reserved for these purposes.

Respectfully submitted,

American Public Power Association

By

A handwritten signature in dark ink, appearing to read "Ted Coombes", is written over a horizontal line.

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